

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	EXPEDITED PROCEDURE
	:	Response under 37 CFR 1.116
Nicolas BERTHOU et al.	:	Confirmation No. 3105
	:	
U.S. Patent Application No. 10/531,081	:	Group Art Unit: 2612
	:	
Filed: October 31, 2005	:	Examiner: McNally, Kerri L.

For: AIRCRAFT INSTRUMENT PANEL

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patents and Trademarks Office

Attention: BOARD OF PATENT APPEALS AND INTERFERENCES

REPLY BRIEF

The Examiner's answer is acknowledged. From the tenor of this answer, the Appellants derive the impression that the Examiner has considered the claimed invention as being no more than any combination of two displays used side by side, having controls, having identical software and hardware (assumedly taught by Langner), having also toggling capabilities, and having some backup capabilities (assumedly taught by Briffe).

In other words, the Examiner seems to consider that: having a duplicated display is known, toggling between displays is known, and a backup capability in case of failure is known; therefore, any novel combination using such features would be unpatentable. However, combinations may be patentable provided they meet the requirements of 35 USC § 103.

The claimed invention is a novel way of using known features to facilitate piloting, while considering the necessity of having a standby instrument and an autopilot control in medium or large size airplanes. The invention does not consist in a simple redundancy of display by duplicating and toggling the main display system while providing some backup; in this respect, Appellants notes that the Examiner does not properly use Langner since, contrary to the statement page 8 first paragraph, bold characters, of the Examiner's answer,

Langner does not disclose "a concept of having two displays with controls which are identical in hardware and software".

The invention proposes to use the display capabilities of the autonomous standby instrument to display the settings entered by the pilot in an autopiloting mode. The standby instrument is thus modified to incorporate autopilot control buttons permitting entry of settings and display of the settings. Further, the invention proposes to duplicate the thus modified standby instrument, so that, in normal operating conditions, one of the standby instruments will be dedicated to displaying standby information when the other will be used for displaying autopilot settings, and *vice versa*.

The teaching of Langner is clear: the main displays and controls should be located side-by-side, close to the hand of the pilot, "for better integrated control, access, and presentation of flight information within the cockpit" (column 16, lines 58-61). In one embodiment there are two main displays which are a MFD display in a first bezel and a NAV display in a second bezel, separated by an audio control panel in a third bezel, and the three panels "are ergonomically arranged to permit an operator's (e.g; pilot's) fingers on a single hand to simultaneously access one or more controls of the first bezel, one or more controls of the audio bezel, and one or more controls of the second bezel." (column 14, lines 20-25). No teaching in Langner relates to an arrangement of standby instruments, autopilot controls, and main display system to satisfy security requirements. Langner does not disclose standby instruments. Langner does not suggest modifying a standby instrument to include autopilot controls and duplicating the thus modified standby instrument.

Briffe does have a sentence relating to a standby instrument, column 4, lines 7-8, and it is extremely short: "Instrument panel 12 also includes standby instruments (not shown)". No other sentence is set forth in this connection.

The assertion of the Examiner that Briffe has a head-up display "that contains standby instruments" is wrong. Briffe does have a head-up display. The head-up display, however, does not contain standby instruments. The teaching of Briffe relates in no way to standby instruments. The teaching of Briffe relates only to displaying certain information, such as a flight director reticle or a flight path angle reticle, on the main display systems. Briffe does not make any suggestion for an arrangement of autopilot controls and standby instruments distinct from a main display system.

Factor is related to small planes which do not incorporate an autonomous standby instrument distinct from the main display system and which do not incorporate autopilot controls, whereas both these features are essential to the instant invention. The purpose of Factor is to display all necessary piloting information on a single screen, as opposed to displaying information on four different devices. Factor considers reliability of the optical projection of the information elaborated by a computer and proposes to duplicate the computer/projector arrangement, which amounts to duplicate the main system except for the screen; the screen is not duplicated, because it is a simple plastic plate not subject to inopportune failure, as explained by Briffe, and if it were duplicated, Factor would not gain room as expected. Factor therefore discloses essentially duplication of a main display system without consideration relative to an autonomous standby instruments or to autopilot controls. Factor does not suggest any manner of modifying a standby instrument to include autopilot controls and duplicating the thus modified instrument.

In summary, the invention is a global aircraft panel having a structure and capabilities which are neither disclosed nor suggested by any of Langner, Briffe, or Factor, or any combination of the teachings of these three references. The respective teachings of Langner, Briffe, and Factor should not be twisted in light of the knowledge of the present invention to force the references to say things that they do not objectively say.

An example of what is not in the prior art references and, though, is considered by the Examiner as being within the reference, is the "head-up display that contains standby instruments" in Briffe. It is respectfully submitted that a so-called head-up display as understood in the art does not contain standby instruments. Briffe discloses a standard head-up display as understood in the art, i.e. not including a standby instrument.

A standby instrument as understood in the art of aeronautics is an autonomous instrument intended to supply a substitute limited information (smaller display, limited information) in case of failure of the main display system; it is distinct from the main display system which is used by the pilot for piloting the airplane in normal conditions and which provides full information.

A head up display is intended to provide piloting information on a transparent glass placed in front of the pilot, in such a way that the pilot sees the real landscape through the windshield and also sees the specific information superimposed on the landscape. The name "head-up display" arises from the fact that the pilot is able to view the information

when looking in front of him instead of looking down towards a panel placed below the windshield. There is no notion of standby instrument in the concept of head-up display. The information which is displayed on the head-up display is provided by the main system and is used in normal conditions, not in case of failure of the main system.

The Examiner's position that the head-up display of Briffe "contains standby instruments intended for back up to the primary flight display" is therefore not correct; it is derived from considerations induced by the reading of the instant application under appeal, not by the reading of Briffe itself.

Favourable consideration by the Board is respectfully solicited.

Respectfully submitted,

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A handwritten signature in cursive script that reads "Kenneth M. Berner".

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